BURRAGE (W. L.)

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With a Synopsis of Twenty-Seven Cases.

BY

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TREATMENT OF CHRONIC ENDOMETRITIS BY CURETTING AND GAUZE DRAINAGE: WITH A SYNOPSIS OF TWENTY-SEVEN CASES.

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To Dr. William M. Polk, of New York, is due in a large measure the credit of having developed and perfected a method of treating endometritis that is rapid in its performance and efficacious in its results.

The method consists of divulsion, curetting and thorough irrigation of the uterus and then packing it lightly with an antiseptic wicking of gauze, the gauze being allowed to remain in place for several days.

Although gauze has been employed as a uterine packing time out of mind, it had not been used in just this manner until Dr. Polk so used it, and called the attention of the profession to the matter in a paper read before the Practitioners' Society of New York in the spring of 1888. In this paper he spoke briefly of the unsatisfactory results obtained by the usual methods of treatment of endometritis. A consideration of the conditions present in endometritis, he said, should lead to the institution of a more rational therapy. In this affection there is an inflamed and suppurating surface lining a nearly closed cavity, and the conditions are almost exactly comparable to those present in an abscess with an opening of insufficient size for the free escape of pus. The discharge is retained in the cavity bathing the already inflamed surfaces, keeping up the irritation, and preventing thereby any attempts on the part of nature to effect a cure. In the case of an ab-

[1] Read before the Boston Society for Medical Observation, December 5, 1892.

scess-cavity with a small opening the plain indications are to enlarge the opening and drain away all the irritating discharges as rapidly as they are formed, and a similar mode of procedure should be equally effective in the analogous condition found within the uterus in endometritis.

Again, in the same year (1888) he read a paper before the American Gynæcological Society on this subject, and referred to nine cases he had treated with success. Last December, in a third paper, before the New York Academy of Medicine, Dr. Polk advocated his plan of treatment in cases of endometritis associated with salpingitis or other periuterine inflammation, opposing the ground taken by most writers of text-books, that where there is periuterine inflammation, the cavity of the uterus should not be invaded. He reported forty cases.

There is no doubt that treating the uterus in this way is a radical procedure; it is, however, founded on solid surgical principles, on cleanliness and drainage. The idea that pelvic inflammation following the passage of the sound was due exclusively to violence is giving way to the belief that the inflammatory trouble was caused largely by lack of asepsis, as to the sound, the vagina or both.

In case of salpingitis, ovaritis, retroversion and pathological anteflexion, it has been my experience that by correcting the endometritis in the method about to be described the symptoms of these affections have been ameliorated. Curetting and drainage should accompany the Alexander-Adams operation for retroversion, for the reason that the replacing of the uterus is not alone sufficient to overcome the deep-seated inflammatory condition of the endometrium that is found in retroversion of long standing: so in many cases of old lacerated cervix, the accompanying endo-

metritis persists for years if not treated at the time of repairing the cervix. The same is true in some cases of cœliotomy for the removal of pus tubes. We have all seen bothersome hæmorrhagic endometritis causing annoyance a long time after the tubes and ovaries were out. It certainly seems to be a more rational plan to treat all the disease at once, rather than a part of it.

Curetting and gauze drainage confine a patient to the house for from ten days to three weeks. The average stay in the hospital of Polk's forty cases was eighteen days. I have not looked up the statistics of mine, but should say the average was a little lower. Most of the older methods of treatment, besides not being as thorough, took months of painful applications, and then the results were far from satisfactory. One especial advantage of this method is that the physician has the immense benefit of an ether examination, a procedure of inestimable value in the diagnosis of pelvic affections in women.

Chronic endometritis will be treated of in this paper from a clinical point of view. The different anatomical varieties enumerated by Pozzi are, — interstitial, glandular, polypoid, and the lesions of the cervix, and inflammation of the ovules of Naboth, granulations and folliculitis. A positive diagnosis of many of these without a microscopic examination of the scrapings is impossible. I have classified the cases as hæmorrhagic, painful, catarrhal and purulent. Where there has been good reason to believe from the history that a purulent discharge is infected with the gonococcus, it has been called gonorrhœal. I have not demonstrated microscopically the presence of the gonococcus in any of the cases reported to-night. By endometritis is meant an inflammation of the endometrium involving in most instances both cervix and body. It is a mistake, I believe, to consider inflammation of the endometrium of either the

cervix or the body as a circumscribed lesion. The disease is apt to be more pronounced in one than the other, but treating one to the exclusion of the other gives unsatisfactory results.

The symptoms of endometritis, broadly, are pelvic pain, leucorrhœa, irregular catamenia, dysmenorrhœa, metrorrhagia or scanty menses, bladder and rectal symptoms, and reflex neuroses. Common symptoms are dyspepsia, neuralgia, constipation, sleeplessness and lack of energy and strength.

The physical signs are alteration in consistency and volume of the cervix, sensitiveness to light pressure bimanually of the cervix, body or both; the presence of erosions and dilated Nabothian follicles; a discharge from the os of clear transparent white-of-egg mucus, or opaque tenacious mucus, pus or blood, or a combination of any of these. Passage of the probe or sound shows increased uterine depth and is attended by more or less pain.

The hæmorrhagic form affects the body more than the cervix. The diagnosis is established by almost continual losses of blood through many months, the flow being unattended by pain as a rule, though in this variety there is likely to be constant lumbar pain; by finding on physical examination a uterine interior that has a boggy feel to the examining probe or sound, and the probe on withdrawal being followed by a flow of blood. In the painful form constant pain in the pelvis, and its consequent weakness, are the chief features. It has an insidious course; respites and exacerbations are to be expected. It seems to be the result of an infection that has developed slowly, and not the sequel to an acute attack. The cervix is hard, even sclerosed; in many cases it is abnormally long and the canal very tight, admitting a probe with difficulty; the canal is very sensitive; the discharge is either clear, transparent,

white-of-egg, or viscid, opaque mucus. The catarrhal and purulent forms are characterized by abundant cervical discharge and by erosions of the cervix. The disease in this form is more pronounced in the cervix. There are many reflex nervous symptoms.

It is not my purpose to go into the symptoms nor diagnosis of chronic endometritis at length. Enough has been said to show on what features my diagnoses are based. We will proceed to the consideration of the operative treatment.

The operation of curetting the uterus is the one operative gynæcological procedure that is done most often by the general practitioner. There are so many different methods, many of them faulty either in lack of asepsis or thoroughness, that it seems worth while to describe in detail a method that if carried out in all its minutiæ is accompanied by uniformly favorable results.

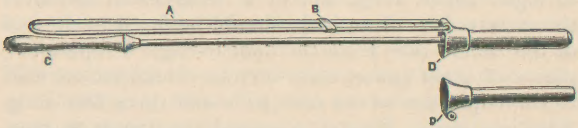
An anæsthetic is a necessity in cases of chronic endometritis. Curetting — following abortion, and in certain fibroids where the canal is patulous and the uterus non-sensitive — may be done with cocaine or even without that. I have used a two-per-cent. solution of cocaine, injected with a hypodermic syringe in two or three places in the walls of the cervical canal. This does away with most of the sensitiveness, which, as a rule, is situated in the cervix and about the internal os rather than at the fundus.

Now as to curetting for chronic endometritis. The instruments needed are: two divulsors, a small light one with narrow blades bent at a good angle, and a large and strong one, with corrugations to prevent slipping: oftentimes Hanks hard-rubber dilators will be sufficient; a sound; dressing-forceps; bivalve speculum (Graves); American bullet-forceps; cervical speculum; tampon screw, or forked pusher; pair of ordinary scissors and curette. A word as to the curette.

I have had considerable experience with the blunt wire loop and with Emmet's curette forceps, and they are neither satisfactory; the dull wire because being dull, it does not scrape well (the only office of a curette), and the curette forceps (a valuable instrument for pinching off mucous polypi), because with it you cannot go over the entire endometrium thoroughly and remove all the disease. The curette I like best is a modification of Sims's sharp curette, modified in being less sharp, the loop smaller, and the staff slender, flexible and elastic, so that the scraping is done with a non-rigid instrument. Thus you do away with the danger of going too deeply and of perforation. The harm to be derived from scraping away the endometrium, if done with reasonable gentleness, is to my mind chimerical. The trouble that resulted as it was done in the days of Sims, looking at the question from our stand-point to-day, was due less to the removal of the tissue than to lack of asepsis. If the endometrium is diseased, it is a rational process to remove it, especially as we have every reason to believe it is readily reformed. As to the divulsors: the small one is for tight canals, met most often in anteflexed uteri; the large one (Warthen's I prefer), is to complete the stretching. One divulsor is not enough. The forked pusher is a slender steel rod with metal handle, the rod being tipped with a shallow U, the prongs of which engage the gauze and carry it into the uterus.

The cervical speculum is the only other instrument that needs special mention. In tight virgin cervices, particularly in the long anteflexed variety, it is next to impossible to wash out the uterine cavity before and after curetting with any ordinary irrigator because the cervix shuts down tightly on the tube preventing a return flow; hence the danger of forcing irrigating fluid and *débris* from the endometrium through the

Fallopian tubes into the peritoneal cavity. This has been the bugaboo of irrigation in the past. Most intra-uterine irrigators and double-current apparatuses are complicated and hard to keep clean, and the open-



ings for the return flow are apt to become clogged by clots and tissue while in use. In placing the gauze after the irrigation, the mucous membrane of the cervical canal having been rendered adhesive by the corrosive, it is found to be difficult to get the gauze through the cervix up to the fundus ; but with the cervical canal lined with a sheath of polished metal, placing the gauze becomes an easy matter. The instrument I use is one I modified from Polk's original pattern, now no longer manufactured. It has two cylinders, as you see, with a detachable handle, and two obturators, one fitting each cylinder, and fixed on either end of a flexible staff. The larger cylinder, No. 28, French, is for use with the patient anæsthetized, and the smaller one, No. 25, French, is for subsequent treatments, should they prove necessary. In the cut, D D are the cylinders, A the detachable wire handle with its sliding clamp B, and C the obturator that is not in its cylinder. All the parts are metal, nickel plated. The instrument is made by Codman & Shurtleff of this city.

This completes the list of instruments. Other necessary apparatus consists of a basin of corrosive (1–3000), and a half-dozen balls of absorbent cotton about an inch in diameter, to be used with the dressing-forceps for sponging. They are as useful as sponges and sponge-holders and far less trouble and cleaner, as

a ball of cotton is used but once and thrown away. For irrigation, an ordinary douche-pail or bag hung on a peg or the gas-fixture near by and filled with warm corrosive (1–3000), a piece of glass tubing, six to eight inches long, and of a diameter of not over three-sixteenths of an inch, should be fitted to the end of the rubber tube from the douche-bag. Prepare two pieces of plain gauze, each double thickness, one-half to three-quarters of an inch wide and three feet long. Sterilize them. Having cleansed the hands, impregnate one strip with iodoform or dermatol by rubbing it in a clean basin with the powder; place the other plain strip with it and have the basin within reach.

While the patient is being prepared for the ether, the operator prepares his hands and forearms by washing in soap and hot water with a nail-brush for five minutes by the clock, changing the wash water at least five times. Then he stains them brown with a saturated solution of permanganate of potash, and completes the preparation by dissolving the color in a saturated solution of oxalic acid, and rinsing in warm water.

The patient's bladder and rectum having been emptied she is anæsthetized and placed on a table on her back in the lithotomy position, with her buttocks at the edge, and resting on a Kelly apron or obstetric pad, the flap of which is gathered into a pail on the floor. A Clover or Ott leg-holder is a handy thing to have as it does away with the need of an assistant to hold each leg. With this appliance, and one assistant to give the ether, it is possible to do a very thorough, clean and speedy operation.

The instruments, previously sterilized by steaming in an Arnold sterilizer for half an hour or boiling in a one-per-cent. solution of washing soda for ten minutes, are laid on a sterilized towel on a table within easy

reach of the operator's right hand, as he stands facing the patient at the foot of the table.

The first step in the operation is a thorough bimanual examination. This should never be omitted, for, no matter how good an examination may have been had without ether, it is always possible that some important fact as to the condition of the uterus or the adnexa may be brought out when the abdominal walls are thoroughly relaxed by the anæsthetic. In certain stout patients and in those with rigid abdominal walls, a satisfactory examination can be obtained only in this way. The bimanual examination is to be made before scrubbing up the field of operation, for the reason that after the vagina has been treated with corrosive it becomes rough and sticky, and thus interferes with the tactile sense. Next scrub the external genitals and buttocks with a nail-brush and soap and water. Hooking back the perineum with the left forefinger, introduce a piece of soap the size of a prune in the vagina and pour in a little water with it. With a rotary movement of the forefinger and middle finger of the left hand in the vagina wash it thoroughly. Hooking back the perineum again, pour water into the vagina from a basin until it runs out free from soap. Irrigate the vagina and external genitals with corrosive from the basin in the same way. We have now a clean field for operation. Insert the bivalve speculum in the vagina and seize the anterior lip of the cervix with the bullet-forceps. The forceps make two small holes only and serve to steady the uterus during the entire operation, and are preferable to the tenaculum, which is apt to tear out again and again.

Pass the sound to determine the patency, direction and depth of the uterine canal, and also the condition of the interior of the uterus. A pedunculated fibroid or abundant fungosities may be diagnosticated and located by this means.

Divulse the cervix. For this purpose, all the time holding it immovable by means of the bullet-forceps held in the left hand, pass the closed blades of the small dilator into the canal and through the internal os. Dilate slowly. Further dilatation is accomplished with the large Warthen dilator. A moderate degree of stretching is sufficient. Ten minutes or more should be devoted to this part of the operation, as with quick divulsion, especially in a cervix having inelastic tissues it is an easy matter to tear through into the broad ligament. In this connection let me say, Don't approximate the handles of the large dilator by means of the thumb-screw on them. You cannot estimate the force you are using. Bring the handles toward each other by the grasp of the hand until you think you have put the tissues sufficiently on the stretch, and then turn the screw to hold the handles as they are until the resistance is overcome. In most cases after dilatation you should be able to pass a No. 20 Hanks dilator with ease. Having removed the dilator, introduce the large cervical speculum. Irrigate for a moment the interior of the uterus by inserting the small glass-tube through the speculum to the fundus, first being careful that the water is running warm. Remove the speculum and introduce the curette to the fundus, and scrape in turn and thoroughly the anterior and posterior walls and the cornua, devoting the most attention to the seat of the fungosities, if present, and to the region of the internal os. It is here that the disease seems mostly to lurk, and a tight internal os is the chief obstacle to drainage. It is well to curette until all soft tissue has been removed. When this has been accomplished the curette makes a characteristic grating sound on the uterine wall. Next, the cervical canal should be attended to, the walls receiving a good scraping. Pass the uterine speculum again and irrigate the

cavity thoroughly like any abscess-cavity and until the wash-water runs out clear. Leaving the speculum in place, take your strip of plain gauze from the basin and engage one end in the tip of the tampon screw or pusher, whichever instrument you happen to have. Carry the gauze to the fundus to one cornu, disengage the screw and withdraw it until its end is at the region of the inner extremity of the uterine speculum. Take a fresh hold of the gauze there and carry it to the fundus and to the other cornu, and so on until the cavity of the uterus is full. Pulling on the free end, withdraw all the gauze. The uterine cavity is now dry and free from corrosive. The next move is to pack it with iodoform or dermatol gauze, and the packing is carried on as just described, care being taken to pack from inside the uterus and not from outside the speculum. In the latter event you will find that the speculum has been filled instead of the cavity of the uterus. In packing, the gauze should be carried first into one horn and then into the other, and so on until the cavity is lightly filled, remembering that the shape of the interior is similar to an isosceles triangle of solid dimensions flattened from front to back with its base at the fundus and its apex at the internal os. A forcible packing is likely to excite subsequent uterine contractions. Now holding the gauze in place with the tampon screw remove the uterine speculum. Cut off with the sterilized scissors any excess of gauze, leaving about an inch projecting from the os. Having removed the bullet-forceps, wiped out the vagina with a piece of absorbent cotton and taken out the bivalve speculum the operation is finished. It is my custom to place a suppository of aqueous extract of opium (one grain) and extract of belladonna (one-half grain) in the rectum before putting the patient to bed. The entire operation should occupy about twenty minutes.

As to the after-treatment. The patient is kept in bed for from three to four days to a week; she is assisted by the nurse to sit up to pass urine, the use of the catheter being avoided as far as possible; after passing water the vulva is sprayed off with warm water. A vaginal douche of four quarts of hot corrosive (1 to 5000, temperature 110° to 115°) is given every night and morning while the patient is under treatment. The bowels are moved on the third day. Occasionally there is a rise of temperature on the second or third day. This generally means defective drainage. Any temperature above 101° after the first night means danger. Now and then one meets with an irritable and intolerant uterus, where the patient suffers from cramp pain in the abdomen on the second or third day. The pains are sometimes relieved by the spontaneous expulsion of the gauze, at others they pass away in an hour or two. If not, the indication is, as in the case of a temperature above 101°, for the removal of the gauze. In removing the gauze it is important to observe the same antiseptic precautions with reference to the hands and instruments as with an operation. By passing the left forefinger to the external os and sliding the tampon screw along it, it is an easy matter to take out the gauze without disturbing the patient in bed.

At the end of a week the patient is placed on the table is the Sims position, a small Sims speculum passed, and the gauze removed. Should there still be present much sensitiveness of the cervix or fundus, accompanied by an unhealthy discharge, and this condition I have found mostly in cases of long-standing anteflexion, fix the cervix with tenaculum or bullet-forceps and introduce the uterine speculum, using the small cylinder, No. 25, and irrigate the cavity of the uterus with warm corrosive (1 to 3000). Dry it out and repack with antiseptic gauze. It has been my ex-

perience that the cervical canal remains well open when gauze has been introduced. Generally the small speculum will pass with only a momentary pain. In certain cases where the gauze has been expelled early, it may be necessary to pass Hanks dilators up to No. 16, when it will be found that the speculum enters easily. Putting in the gauze through the speculum is rarely accompanied by pain, due to the fact that the cervix, the sensitive portion, is protected by the speculum from contact with the gauze.

One or two packings, a week apart, are generally sufficient to cure the most obstinate cases. Now and then a case will need longer treatment. In most cases one packing is sufficient. The uterine canal has remained patulous for months after this treatment in many of my cases, and the tissues of the cervix were soft. The amount of watery oozing while the gauze is in place is very large, but soon decreases after its removal. Local depletion seems to be assured.

The gauze although left in in some instances as long as ten days has never come out anything but perfectly sweet.

I have made a tabulated statement of twenty-seven cases of chronic endometritis that were treated by curetting and gauze drainage; being all the cases, exclusive of Alexander-Adams operation, so treated by me in the six months from February to September of this year. Five of them were fibroids, Nos. 23 to 27 inclusive. In these the relief was only temporary, both as regards symptoms and anatomical results. Of the remaining twenty-two, three, Nos. 4, 13 and 20, were unsuitable cases for this treatment. As the result proved, the general symptoms of hysteria far outweighed in importance the local symptoms. One case, No. 12, had an attack of pelvic inflammation following the operation and was made worse by it. This

was a hospital case; and I think I can place the fault in asepsis that caused the bad result. In the other eighteen cases the results were very satisfactory. I have not included my Alexander cases, because there the results might fairly be attributed to the restoration of the uterus to a more normal position in the pelvis. There was a rise in temperature on the second or third day in four cases, Nos. 10, 12, 17 and 19. In No. 10 there was a cystitis due to the use of the catheter, and the temperature might well be attributed to that. No. 12 we have just referred to. Nos. 17 and 19 were undoubtedly instances of the rise of temperature being due to defective drainage, removing the gauze in every instance brought the temperature down. In Nos. 5 and 19 I tore into the broad ligament on the left side while divulsing, without any subsequent harm in either case. Five cases, Nos. 2, 7, 10, 17 and 20, had had previous local treatment for periods ranging from nine months to two and a half years without relief. No. 2 had been under treatment by gradual dilatation of the cervical canal, douches, etc., for nine months without any improvement in her symptoms; and in spite of the fact that she had both ovaries prolapsed and one of them much enlarged, she was entirely relieved for six months, and then suffered only from a dragging sensation, due undoubtedly to the prolapsed ovaries and hard work. No. 7 had had an operation on the cervix and perineum a year before by one of our foremost operators, without relief. In two cases, Nos. 14 and 21, the curetting was done as a preliminary to abdominal section, with the object of doing away with the diseased condition of the endometrium before removing the more serious trouble in the adnexa. In No. 14 the curetting and drainage had the effect of relieving the pain and diminishing the purulent discharge. (The temperature dropped from 102° to normal.) In

No. of Case.	Name, Age, Social Condition.	Pregnancies.	Diagnosis.	Chief Symptoms.	Catamenia.	Condition of Uterus.	Depth of Uterus in Inches.	Uterine Discharge.	Uterine Tenderness on Bimanual Examination.	Condition of Adnexa.	Amount of Tissue obtained by Curetting. Small, less than ʒi. Large, more than ʒi.	Details of Treatment.	Anatomical Results.	Symptomatic Results.
1	M. M. 30 m.	Sterile.	Painful endometritis, retroversion, vaginitis.	Pain in left side and back for three yrs. since marriage.	Irregular, 5–6 weeks, scanty.	Retroverted 1st d., fixed.	2¾	Clear mucoid.	None.	Normal to feel.	Small.	Gauze for 6 days. " " 7 "	No uterine discharge, no vaginitis.	Relief of pain. To have a course of packing.
2	I. B. 21 m.	Sterile.	Painful endometritis, anteflexion cervix and body, prolapsed ovaries.	Dysmenorrhœa 9 yrs., pelvic pain 2 yrs. Previous treatment by gradual dilatation for 9 mos.	Regular, painful, increased flow.	Mobility limited by adhesion on left. Pinhole os.	3½	Clear mucoid, profuse.	Both cervix and body.	Both ovaries enlarged to twice normal size.	Large.	Gauze for 7 days. " " 7 "	Slight uterine discharge, no tenderness, normal flow 6 mos. after operation.	Relieved of all pain for 6 months. Then dragging sensation in pelvis.
3	H. D. 50 m.	7 c. 6 ab.	Hæmorrhagic endometritis.	Irregular and profuse for 1 ½ yrs.	Regular till 1½ yrs. ago.	Anteverted, mobility good.	3½	Bloody mucoid.			Large.	Gauze removed in 2 days because of uterine colic.	No discharge when she left the hospital.	Relieved of flowing when left hospital.
4	N. S. 15 s.		Catarrhal endometritis, hysteria.	Pelvic pain, headache, amenorrhœa. (Previous medical treatment for 5 mos.)	Irregular for 9 mos., scanty.	Anteflexed, long cervix.	2½	Clear mucoid.	Slight of cervix.	Ovaries both small.	None.	Gauze for 6 days.	Local condition the same 2 months after.	Pain not relieved.
5	M. C. 23 s.		Painful endometritis, anteflexion of cervix, prolapsed ovaries.	Pelvic pain for 1½ yrs., dyspepsia.	Irregular, scanty.	Retroposited.	2½	Clear mucoid.	Both cervix and body.	Both ovaries in cul-de-sac, right enlarged one-half.	None.	Gauze for 7 days. (Tore through cervix into left broad ligament while divulsing.)	No tenderness and no discharge 4 months after. No bad results from tear.	Pain relieved for 4 mos.
6	T. B. 49 m.	11 c.	Catarrhal endometritis, vaginitis.	Vaginal discharge.		Retroflexed.	3	Viscid muco-purulent abundant.			Small.	Gauze for 7 days.	Relieved from both endometritis and vaginitis when discharged from hospital.	Subsequent history unknown.
7	M. H.C. 31 m.	1 c. 12 yrs. ago. 1 ab. 11 yrs. ago	Painful endometritis, prolapsed ovary and tube.	Pain in right lower abdomen for 12 yrs., dysmenor. for 12 yrs. (Oper. on cervix and perenium 1 yr. ago.)	Regular and painful.	Normal in position and mobility.	2¾	Viscid muco-purulent abundant.	Both cervix and body very tender.	Left ovary and tube prolapsed and adherent.	Large.	Gauze for 6 days. Then expelled after uterine colic of 3 hours.	No discharge and no sensitiveness 1 month after.	Pain entirely relieved when last heard from 1 month after.
8	A. B. 26 m.	4 c. 9 to 2½ yrs.	Hæmorrhagic endometritis, neurasthenia.	Irregular and profuse flow, pain in right abdomen for 2½ yrs. (Previous cœliotomy 2 yrs. ago.)	Irregular, profuse.	Normal in position and mobility.	3	Bloody mucoid profuse.	Both cervix and body.	Left ovary and tube enlarged and tender.	Large.	Gauze for 7 days. " " 8 "	No discharge and no sensitiveness at end of two weeks.	Relieved at end of two weeks. To convalescent home.
9	L. H. 18 s. Colored		Gonorrhœal endometritis, retroversion.	Pain in back and inability to walk for 3 weeks, bubo on both sides.	Irregular, dysmenorrhœa, always.	Retroverted in 3d week and fixed.	2¾	Muco-purulent.	Both cervix and body.			Gauze for 7 days.	Discharge decreased in amount. Home in 8 days, advised packing.	Entirely relieved of pain. Seen on street recently by another patient.
10	L. J. 23 s.		Painful endometritis, vaginitis.	Dysmenorrhœa for 3 yrs. (Curetting in Baltimore 2 yrs. ago.)	Irregular, painful.	Retroverted, and mobility limited by tight utero-sacral ligaments.	2¾	Mucoid profuse.	Of cervix.	Normal to feel.	Large.	Gauze for 3 days. Temperature 102°, and pain on 3d day, cystitis.	Slight mucoid discharge 4 mos. after. Vaginitis well.	Entirely relieved 4 mos. after.
11	E. McG. 22 s.		Painful endometritis, prolapsed ovary and tube.	Dysmenorrhœa, debility.	Irregular, painful.	Anteverted and to the left.	2½	Muco-purulent.	Of cervix.	Left ovary and tube twice normal size, and adherent in cul-de-sac.	Large.	Gauze for 7 days.	No discharge and no tenderness 6 weeks after.	General strength improved 6 weeks after. Had had no catamenia then.
12	P. McK. 26 m.	Sterile.	Gonorrhœal endometritis, retroversion.	Dysmenor. and dyspareunia for 10 yrs. (Left ovary removed 3 yrs. ago, Alexander right side 1 yr. ago.)	Regular, painful, profuse.	Retroverted in 3d week, mobility good.	3	Muco-purulent.	Extreme of both cervix and body.	Right ovary prolapsed and adherent.	Large.	Pelvic inflammation. Temp. 102° morning of 3d day and gauze removed.	Uterus fixed. Freely movable in 2 months.	No relief because of pelvic inflammation.
13	H. C. 26 m.	1 ab. 15 yrs. ago	Catarrhal endometritis, retroversion, hyteria.	Backache, nausea, dyspepsia for 3 yrs.		Retroverted and retroposited, fixed.	3⅜	Mucoid.		Thickening at base of broad ligaments.	Moderate.	Gauze for 2 days. Removed for violent nausea and screaming without relief.	Discharge diminished and sensitiveness less.	No relief.
14	S. I.W. 27 m.	1 c. 9 yrs. 1 ab. 2 yrs. ago	Gonorrhœal endometritis, salpingitis, ovaritis, sub-acute pelvic inflammation.	Pain in abdomen from acute attack of pelvic inflammation 6 wks. before, gonorr. 5 yrs.		Retroverted and to the left.	3	Purulent, profuse.	General pelvic hyperæsthesia.	Adnexa involved in an extensive exudate.	Large.	Gauze for 5 days. Cœliotomy in 7 days, adnexa removed.	Discharge lessened.	Entirely relieved of pain in abdomen.
15	N. C. 16 s.		Painful endometritis, anteflexion body and neck, debility.	Dysmenorrhœa 5 yrs., general weakness, pain in right abdomen. (Previous medical treatment.)	Regular, very painful, scanty.	Retroposited, anteflexion of body and neck, tight canal.	2½	Clear mucoid.	Both cervix and body.	Both ovaries and tubes normal to feel.	None.	Gauze for 7 days. " " 7 " Pessary.	Slight mucoid discharge for 3 months after, no tenderness.	Dysmenorrhœa relieved and general strength improved.
16	K. R. 19 s.		Hæmorrhagic endometritis.	Profuse flowing for last 3 weeks, irregular and profuse flowing for 5 yrs.	Irregular, painful.	Retroposited.	2¾	Blood.			Moderate.	Gauze for 4 days.	No flowing.	
17	A. M. 26 s.		Hæmorrhagic endometritis, anteflexion body and neck.	Profuse flowing every 2 weeks for 3 mos., dysmenorrhœa.	Irregular, profuse, painful.	Sharp anteflexion of body and cervix, tight canal.	2½	Bloody mucoid, profuse.	Slight of both.		Moderate.	Temp. 103° on 2d night. Gauze out on 3d day, replaced 4th and left in 5 days. Tr. I. to fundus twice.	No discharge and no sensitiveness 3 mos. after.	Dysmenorrhœa entirely relieved 3 months after.
18	M. K. 24 s.		Hæmorrhagic endometritis, anteflexion of neck, prolapsed ovaries.	Yellow vaginal discharge for 6 mos., pain on urination.	Painful, profuse.	Retroposited, neck bent sharply forward, long and rigid.	3½	Purulent.	Of cervix.	Both ovaries prolapsed.	Large.	Gauze for 6 days. " " 10 " " " 5 "	No discharge and no sensitiveness for 3 months.	Relieved of flowing and discharge, also pain on urination.
19	G.McN. 25 s.		Painful endometritis, anteflexion of neck.	Pain in back for 3 mos., dysmenorrhœa for 12 yrs.	Irregular, always painful, scanty.	Retroposited, neck long and bent sharply forward.	2¾	Mucoid slight in amount.	Of cervix.	Normal to feel.	Moderate.	Temp. 101.5° on 3d day and pain. Gauze removed. A rent in cervix on left.	No discharge and no sensitiveness 1 mo. No harm from tear in cervix.	Pain in back relieved. Dysmenorrhœa not relieved.
20	D.McF. 20 s.		Catarrhal endometritis, hysteria.	Constant pain in right lower abdomen, loss of consciousness, perverted appetite, etc.	Irregular, scanty.	Retroposited, tight utero-sacral ligaments.	2½	Mucoid.	Of cervix and body slight.	Normal to feel.	Moderate.	Gauze for 4 days.	Less discharge, no sensitiveness.	Pain in abdomen not relieved.
21	C. E. 35 m.	3 c. youngest 6½ yrs.	Gonorrhœal endometritis, salpingitis, ovaritis, pelvic inflammation.	Flowing for the past month.	Irregular, profuse.	Retroverted, fixed by exudate.	3⅜	Purulent and bloody, profuse.		Extensive pelvic inflammatory exudate.	Large.	Gauze for 7 days. Cœliotomy for removal of adnexa in 2 weeks.	Less discharge, no flowing.	Pain relieved and temperature reduced.
22	S. P. 30 m.	Sterile.	Painful endometritis, anteflexion, stricture of indurated cervix.	Pain in back for 8 yrs. since marriage, sterility.	Irregular, painful.	Uterus held on left at int. os, long cervix, very tight canal.	3¼	Viscid mucoid.	Of cervix.	Right ovary prolapsed.	Large.	Uterotomy with Otis' urethratome to 33. Gauze 2 ds., removed for pain and tem. of 101°. Gauze 3 times. Sounds passed.	Canal still tight, sensitive.	Pain in back relieved.
23	H. B. 43 m.	2 c. 21 and 16 yrs.	Hæmorrhagic endometritis, fibroid (small).	Excessive flowing off and on for 16 yrs., under treatment for 9 yrs.	Irregular, profuse.	Retroverted, posterior wall thickened from ext. os to ½ in. of fundus.	3⅜	Bloody mucoid.	Of fundus.	Normal to feel.	Moderate.	Gauze 1 week. Finger in cavity for diagnosis.		No flowing for 2 mos.
24	E. T. H. 40 m.	Sterile.	Hæmorrhagic endometritis, fibroid (small).	Excessive flowing at periods for 5 yrs., watery discharge.	Regular, profuse.	Retroposited, size of small cocoanut.	3¼	Watery, profuse.	Of cervix.	Both prolapsed in cul-de-sac.	Moderate.	Gauze for 5 days. Curetted without ether.		Flowing and watery discharge diminished.
25	K. M. 40 m.	6 c. youngest 2 yrs.	Hæmorrhagic endometritis, fibroid (small).	Pain in abdomen for 10 days from attack of pelvic inflammation.	Regular, normal.	Good axis, fixed.	3⅛	Purulent.			Large.	Gauze for 7 days.	No discharge in 3 weeks when last seen.	Pain relieved.
26	M. D. 34 s.		Hæmorrhagic endometritis, fibroid (small).	Excessive flowing at periods for 11 mos., curetted 3 mos. ago.	Irregular, profuse.	Axis and mobility good, symmetrical and universal enlargement.	3⅜	Bloody mucoid.			Large.	Gauze for 7 days.		Relieved from flowing for 3 months.
27	M. C. 38 m.	4 c. youngest 12 yrs.	Hæmorrhagic endometritis, fibroid (small).	Excessive flowing at periods for 9 mos.	Regular, profuse.	Anteverted, mobility good, size of lemon.	3	Bloody mucoid.	Slight of fundus.		Large.	Gauze for 3 days.		Relieved from flowing 1 month, next month it was bad again.

No. 21 it relieved the pain, and the temperature fell from 101.4° gradually until it reached normal on the third day.

To sum up the advantages that this method of treatment of chronic endometritis seems to possess, we may enumerate : its quickness of performance ; its thoroughness ; the local depletion of the pelvis, including drainage of the Fallopian tube if their uterine ends are not occluded; and, in cases of stenosis a permanent increased calibre of the uterine canal.

In closing, I wish to say that this method of local treatment, like any other, should be accompanied by hygienic and tonic general treatment to ensure the best results.

DISCUSSION.

Dr. Baker: I am very glad that Dr. Burrage has brought this subject before the Society, for I consider it is one of the most important ones that the general practitioner (who attempts at all to treat uterine disease) has to consider. Long ago Dr. Thomas, in describing the treatment of endometritis, felt the necessity of thorough drainage, and thus getting rid of the mucus from the diseased membrane. One of the first things that he advised in this connection, in his early text-book, was the establishment of a free and open canal, that this secretion might have a ready exit, and through which the application then in vogue might be made. If he had gone some steps further, as we have done in this day, we should have obtained better results.

I quite agree with Dr. Burrage in all that he has said in regard to the technique of the operation, with the one exception that I think myself that the curetting can be better done in the Sims position and with the Sims speculum than with the other forms. However, that is a non-essential matter.

I think that any one who has toiled on in the treatment of endometritis after the old method with application after application, and has seen the unsatisfactory results, would quite agree with most that Dr. Thomas has said in the early editions of his book in regard to the non-curability of the disease; but to-day we can by a very slight surgical procedure cure a very large majority of such cases — in fact, I should say, perhaps all that have no malignancy in connection with them.

I am glad that Dr. Burrage has gone so fully into the detail of the preparatory part of the treatment; for therein, of course, largely depends the success, because the dangers are from the failure in carrying out a perfect aseptic operation. Any one who has followed closely his description can see that the curetting of the uterus in this way, with all this preparatory treatment, is not a simple procedure, as it was formerly considered. I mean that there was no especial preparation made of the patient as to the cleanliness of the parts. If we consider it then, as Dr. Burrage has done, an operation requiring almost as much preparation as we should make for a cœliotomy, I am sure we shall meet with success in the treatment of this disease. When we remember the great power of absorption of the endometrium, and the very dirty methods of treating this membrane formerly in vogue, it is a wonder that we did not have even worse results than were then recorded.

To show just the difference between the old method of treating endometritis and this method, I would refer to a single case, and that a patient who came to me early in October with a history of having been for a year under constant treatment with application of iodine to the endometrium at the hands of a general practitioner, the applications having been made, after

the old method, to the interior of the uterus. She had not improved ; in fact she found herself rather worse at the end of the year than better. I at once practised the method of treatment which Dr. Burrage has so fully described, and practically cured her within three weeks. There was entire relief of the former symptoms of pain and discharge. The size of the uterus was reduced to normal, and there is every appearance that she is now well. When the cases can be cured as speedily as this I am sure that we have made a great advance in the treatment of this disease. I think a great deal of credit is due to the author of this paper for his ingenuity in devising a uterine speculum through which this packing can be so readily placed as well as the uterus irrigated. We had long felt the need of this, and it fills the gap entirely ; and any one who has tried this speculum I am sure will never be without it, for it simplifies the process immensely. One will not infrequently be surprised, perhaps, to see the readiness with which the dilatation may be accomplished sufficiently to admit the smaller one, at least, of the specula Dr. Burrage has shown. I have listened with a great deal of interest to this paper ; and I am sure it is one which has come in good time, and will, I hope, be read by the profession at large and be made use of by them.

Dr. Blake : I fully endorse all that has been said by Dr. Burrage. I am somewhat familiar with this, having done it perhaps forty times in hospital and private practice. When we think of the dangers attending the old method of exploring the interior of the uterus and the fatal results which followed, we are correspondingly grateful for this. The old method by sponge tents, and later the laminaria, were the substitutes for this operation. They did their work rather imperfectly, and were not unattended with danger. I recall a case where a sponge tent breaking off resulted

in death, even in the hands of the most prominent gynæcologist of his day in this city. This operation comes now; and the success which follows it in properly selected cases is almost beyond belief. I suppose it is without exception the most reliable method that we have of treating sterility where that sterility depends upon a contracted uterine canal with perhaps catarrhal salpingitis. It, to my mind, takes the place of the old stem-pessary, and does it successfully. It removes completely the necessity of long-continued interior uterine medication by iodine and the stronger acids in vogue twenty-five years ago. At that time the treatment of chronic endometritis was by acid nitrate of mercury, the most powerful acid, I believe, that we have except the chromic in its concentrated form. That is now unnecessary; and you get, after a short time, relief which did not attend the former treatment even when continued for months.

There are one or two points which ought to be borne in mind. This operation, simple as it appears, is not unattended with danger in unexperienced hands. Sometimes you come across a uterus with thin walls; and it is an unpleasant experience which has occurred to some of us to find our curette invading and exploring the abdominal cavity. Fortunately, however, it is not a serious accident; but it ought to be borne in mind that it is not strength unregulated that should be exercised in the application of a moderately sharp curette to the endometrium. The dilator that I prefer is Goodell's. It is too large to begin an operation with, and so it is necessary to have two sizes, one with conical points, and the other to finish. No danger has attended dilating the uterus in my hands; and the success in relieving the symptoms, and particularly in removing the ovarian pain that is a pretty constant attendant, is very gratifying indeed.

DR. CONANT: I most heartily endorse this operation. I think any one who has attempted to pack the uterus with a uterine speculum will appreciate, if he will use that speculum, the immense advantage it gives. The only caution I should give is that unless one has had experience he will find himself packing the uterus too full, and instead of allowing the discharge to escape, he will block it up, and it will distend the tubes. That can be remedied by pulling it out the moment the temperature goes up and repacking. The results of this operation have been extremely gratifying, not only to the operator, but to the patients.